24. The heat sink of claim 12 wherein said phase change material is a wax.

**REMARKS**

Claims 1, 5 and 6 have been amended, claims 3, 4, 9 and 10 have been canceled without prejudice, claims 21 to 24 have been added and claims 13 to 20 have been withdrawn from consideration as being drawn to a non-elected species. Accordingly, claims 1, 2, 5 to 8, 11, 12 and 21 to 24 are now active in this application.

Claims 1, 3 and 5 were rejected under 35 U.S.C. 102(a) as being anticipated by Lebailly et al. and claims 2, 4 and 6 to 12 were rejected under 35 U.S.C. 103 as being unpatentable over Lebailly et al. in view of Alspaugh. The rejections are respectfully traversed.

Claim 1 requires, among other features, a porous, highly thermally conductive material integral with and thermally coupled to the highly thermally conductive surface and disposed in the cavity. No such structure is taught or suggested by Lebailly et al., Alspaugh or any proper combination thereof.

In Lebailly et al., the porous material is not integral with the surface and merely serves as a wick. In Alspaugh, the filaments merely float in the phase change medium and are not integral with the highly thermally conductive surface.

The advantage of the integral structure is that the heat is constantly channelled from the highly thermally conductive surface directly into the phase change material and throughout the entire

cavity via the porous material directly. The extraction of the heat proceeds much more rapidly when the porous material is integral with the surface and extends throughout the cavity in the phase change material (liquid or solid). When the filaments, such as in Alspaugh, float in the phase change material, the filaments only make incidental contact with the surface, even this contact being on an intermittent basis at best. Accordingly, the heat is transferred throughout the cavity mainly via the phase change material with the filaments only providing an assist thereto.

It follows that the invention as claimed in claim 1 provides a distinct advantage over Lebailly et al., Alspaugh or any proper combination thereof and is patentable thereover.

Claims 2, 5 to 8, 11, 12 and 21 to 24 depend from claim 1 and therefore define over the cited references for at least the reasons presented above with regard to claim 1.

In addition, claim 2 further limits claim 1 by requiring that the initial phase of the phase change material be the solid phase and the final phase be the liquid phase. No such combination is taught or suggested by Lebailly et al., Alspaugh or any proper combination thereof.

Claims 5 and 6 further limit claims 1 and 2 by requiring that the porous medium be aluminum. No such combination is taught or suggested by Lebailly et al., Alspaugh or any proper combination thereof.

Claims 7, 8, 11 and 12 further limit claims 1, 2, 5 and 6 by requiring that the porous material be substantially homogeneously

disposed within the cavity. No such combination is taught or suggested by Lebailly et al., Alspaugh or any proper combination thereof.

Claims 21 to 24 further limit claims 1, 2, 11 and 12 by requiring that the phase change material be a wax. No such combination is taught or suggested by Lebailly et al., Alspaugh or any proper combination thereof.

In view of the above remarks, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,

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CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8 (a)

I hereby certify that the attached document is being deposited with the United States Postal Services as First Class Mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on the date indicated below.

2-8-96

Jackie McBride

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